

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**FP04-0469-00**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2005/000070**

International filing date (day/month/year)

**06.01.2005**

Priority date (day/month/year)

**07.01.2004**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**HITACHI CHEMICAL CO., LTD.**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/000070

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language  
\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2005/000070

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
<b>1. Statement</b>			
Novelty (N)	Claims	7-10, 14, 16, 17	YES
	Claims	1-6, 11-13, 15, 18	NO
Inventive step (IS)	Claims		YES
	Claims	1-18	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO
<b>2. Citations and explanations:</b>			
<p>Document 1: JP 4-149237 A (Soken Chemical &amp; Engineering Co., Ltd.), 22 May 1992  Document 2: JP 4-115407 A (Soken Chemical &amp; Engineering Co., Ltd.), 16 April 1992  Document 3: JP 7-133466 A (Soken Chemical &amp; Engineering Co., Ltd.), 23 May 1995  Document 4: JP 2002-167555 A (Hitachi Chemical Co., Ltd.), 11 June 2002  Document 5: JP 2002-167556 A (Hitachi Chemical Co., Ltd.), 11 June 2002  Document 6: JP 2002-164389 A (Hitachi Chemical Co., Ltd.), 07 June 2002  Document 7: WO 2001/059007 A1 (Hitachi Chemical Co., Ltd.), 16 August 2001</p> <p>The inventions of claims 1-18 do not appear to possess novelty or to involve an inventive step based on the disclosures in documents 1-7 cited in the ISR.</p> <p>Documents 1-3 respectively disclose a composition that uses conductive particles formed as a metal conductor film such as a Ni-Au composite film, etc. on a polymer particle core, with at least part of the conductor film surface coated and adhered with polymer particles of acrylic, etc. by a method such as dry blending, etc. The conductive particles are added to and dispersed in an insulating binder that contains a thermosetting resin, etc. and form an anisotropic conductive adhesive composition useful for connecting and adhering electrodes. They also disclose an electrical connection structure that connects and adheres electrodes using this composition and a manufacturing method therefor. In particular, documents 2 through 3 respectively disclose the point that the connection structure resists moisture/heat cycles.</p> <p>Therefore the inventions of claims 1-6, 11-13, and 15 through 18 and the inventions disclosed in documents 1-3 have minor differences with regard to mass ratios, particle size ratios and coating percentages, etc. between tiny particles. But there is essentially no difference in the practical effect of the inventions due to these technical matters, and there are not special technical features. Therefore they appear to be essentially the same.</p> <p>Also, upon comparing the inventions of claims 7-10, 14, and 16 through 17 with the inventions disclosed in documents 1-3, the inventions of claims 7-10, 14, and 16 through 17 respectively regulate the composition of the adhesive composition (claims 7-10) and the type of material adhered (claims 14 and 16 through 17), whereas documents 1-3 differ only in the point that they do not have specific disclosures regarding these technical matters. But they are also disclosed respectively in documents 4-7, and the relevant composition of the adhesive composition and the type of material adhered are only at least well-known art to a person skilled in the art prior to the priority date of this international application.</p>			

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/000070

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The specification of this international application does not specifically disclose a method for coating part of the surface of conductive particles with insulating microparticles or purification of the conductive particles coated with insulating microparticles (removing insulating microparticles that did not coat).

However, in light of technical common sense, it is apparent that the shape of the insulating microparticles changes according to the type of coating method, and that if uncoated insulating microparticles are present, this will affect the quantitative measurement of the insulating microparticles used in coating.

Therefore the details disclosed in the specification of this international application are somehow technically unclear. Do the desired ratios (mass ratio, ratio of specific gravity, percentage of surface coated) disclosed in the claims intentionally provide an insulating microparticle coating? The technical significance of the various percentages disclosed in the claims is unclear.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/000070

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

Combining the technical matters disclosed in documents 4-7 with the inventions disclosed in documents 1-3, which belong to the same technical field, and constituting the inventions of claims 7-10, 14, and 16 through 17 does not appear to present any special technical difficulty.

Therefore the inventions of claims 1-18 would easily be carried out by a person skilled in the art based on the inventions disclosed in the above documents.

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**FP04-0469-00**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2005/000070**

International filing date (day/month/year)

**06.01.2005**

Priority date (day/month/year)

**07.01.2004**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**HITACHI CHEMICAL CO., LTD.**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/000070

Box No. I      Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐

This opinion has been established on the basis of a translation from the original language into the following language

\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☐

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed.

☐

filed together with the international application in computer readable form.

☐

furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2005/000070

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
<b>1. Statement</b>			
Novelty (N)	Claims	7-10, 14, 16, 17	YES
	Claims	1-6, 11-13, 15, 18	NO
Inventive step (IS)	Claims		YES
	Claims	1-18	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO
<b>2. Citations and explanations:</b>  <p>Document 1: JP 4-149237 A (Soken Chemical &amp; Engineering Co., Ltd.), 22 May 1992  Document 2: JP 4-115407 A (Soken Chemical &amp; Engineering Co., Ltd.), 16 April 1992  Document 3: JP 7-133466 A (Soken Chemical &amp; Engineering Co., Ltd.), 23 May 1995  Document 4: JP 2002-167555 A (Hitachi Chemical Co., Ltd.), 11 June 2002  Document 5: JP 2002-167556 A (Hitachi Chemical Co., Ltd.), 11 June 2002  Document 6: JP 2002-164389 A (Hitachi Chemical Co., Ltd.), 07 June 2002  Document 7: WO 2001/059007 A1 (Hitachi Chemical Co., Ltd.), 16 August 2001</p> <p>The inventions of claims 1-18 do not appear to possess novelty or to involve an inventive step based on the disclosures in documents 1-7 cited in the ISR.</p> <p>Documents 1-3 respectively disclose a composition that uses conductive particles formed as a metal conductor film such as a Ni-Au composite film, etc. on a polymer particle core, with at least part of the conductor film surface coated and adhered with polymer particles of acrylic, etc. by a method such as dry blending, etc. The conductive particles are added to and dispersed in an insulating binder that contains a thermosetting resin, etc. and form an anisotropic conductive adhesive composition useful for connecting and adhering electrodes. They also disclose an electrical connection structure that connects and adheres electrodes using this composition and a manufacturing method therefor. In particular, documents 2 through 3 respectively disclose the point that the connection structure resists moisture/heat cycles.</p> <p>Therefore the inventions of claims 1-6, 11-13, and 15 through 18 and the inventions disclosed in documents 1-3 have minor differences with regard to mass ratios, particle size ratios and coating percentages, etc. between tiny particles. But there is essentially no difference in the practical effect of the inventions due to these technical matters, and there are not special technical features. Therefore they appear to be essentially the same.</p> <p>Also, upon comparing the inventions of claims 7-10, 14, and 16 through 17 with the inventions disclosed in documents 1-3, the inventions of claims 7-10, 14, and 16 through 17 respectively regulate the composition of the adhesive composition (claims 7-10) and the type of material adhered (claims 14 and 16 through 17), whereas documents 1-3 differ only in the point that they do not have specific disclosures regarding these technical matters. But they are also disclosed respectively in documents 4-7, and the relevant composition of the adhesive composition and the type of material adhered are only at least well-known art to a person skilled in the art prior to the priority date of this international application.</p>			



WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/000070

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The specification of this international application does not specifically disclose a method for coating part of the surface of conductive particles with insulating microparticles or purification of the conductive particles coated with insulating microparticles (removing insulating microparticles that did not coat).

However, in light of technical common sense, it is apparent that the shape of the insulating microparticles changes according to the type of coating method, and that if uncoated insulating microparticles are present, this will affect the quantitative measurement of the insulating microparticles used in coating.

Therefore the details disclosed in the specification of this international application are somehow technically unclear. Do the desired ratios (mass ratio, ratio of specific gravity, percentage of surface coated) disclosed in the claims intentionally provide an insulating microparticle coating? The technical significance of the various percentages disclosed in the claims is unclear.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/000070

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

Combining the technical matters disclosed in documents 4-7 with the inventions disclosed in documents 1-3, which belong to the same technical field, and constituting the inventions of claims 7-10, 14, and 16 through 17 does not appear to present any special technical difficulty.

Therefore the inventions of claims 1-18 would easily be carried out by a person skilled in the art based on the inventions disclosed in the above documents.

特許協力条約

発信人 日本国特許庁（国際調査機関）

REC'D 17 FEB 2005

WIPO

PCT

出願人代理人

長谷川 芳樹

様

あて名

〒 104-0061  
東京都中央区銀座一丁目10番6号  
銀座ファーストビル  
創英国際特許法律事務所

PCT  
国際調査機関の見解書  
(法施行規則第40条の2)  
[PCT規則43の2.1]

発送日  
(日.月.年)

15. 2. 2005

出願人又は代理人  
の書類記号

FP04-0469-00

今後の手続きについては、下記2を参照すること。

国際出願番号

PCT/J P 2005/000070

国際出願日

(日.月.年) 06. 01. 2005

優先日

(日.月.年) 07. 01. 2004

国際特許分類 (IPC) Int. Cl<sup>7</sup> C09J 201/00, H01R11/01, C09J 9/02,  
H01B 1/22, H01B 1/00, H05K 1/14

出願人 (氏名又は名称)

日立化成工業株式会社

1. この見解書は次の内容を含む。

- ☒ 第I欄 見解の基礎  
☐ 第II欄 優先権  
☐ 第III欄 新規性、進歩性又は産業上の利用可能性についての見解の不作成  
☐ 第IV欄 発明の単一性の欠如  
☒ 第V欄 PCT規則43の2.1(a)(i)に規定する新規性、進歩性又は産業上の利用可能性についての見解、それを裏付けるための文献及び説明  
☐ 第VI欄 ある種の引用文献  
☐ 第VII欄 国際出願の不備  
☒ 第VIII欄 国際出願に対する意見

2. 今後の手続き

国際予備審査の請求がされた場合は、出願人がこの国際調査機関とは異なる国際予備審査機関を選択し、かつ、その国際予備審査機関がPCT規則66.1の2(b)の規定に基づいて国際調査機関の見解書を国際予備審査機関の見解書とみなさない旨を国際事務局に通知していた場合を除いて、この見解書は国際予備審査機関の最初の見解書とみなされる。

この見解書が上記のように国際予備審査機関の見解書とみなされる場合、様式PCT/ISA/220を送付した日から3月又は優先日から22月のうちいずれか遅く満了する期限が経過するまでに、出願人は国際予備審査機関に、適当な場合は補正書とともに、答弁書を提出することができる。

さらなる選択肢は、様式PCT/ISA/220を参照すること。

3. さらなる詳細は、様式PCT/ISA/220の備考を参照すること。

見解書を作成した日

31. 01. 2005

名称及びあて先

日本国特許庁 (ISA/J P)  
郵便番号100-8915  
東京都千代田区霞が関三丁目4番3号

特許庁審査官 (権限のある職員)

橋本 栄和

4V 8620

電話番号 03-3581-1101 内線 3483

様式PCT/ISA/237 (表紙) (2004年1月)

## 第 I 欄 見解の基礎

1. この見解書は、下記に示す場合を除くほか、国際出願の言語を基礎として作成された。

- ☐ この見解書は、\_\_\_\_\_ 語による翻訳文を基礎として作成した。  
それは国際調査のために提出された P C T 規則 12. 3 及び 23. 1 (b) にいう翻訳文の言語である。

2. この国際出願で開示されかつ請求の範囲に係る発明に不可欠なヌクレオチド又はアミノ酸配列に関して、以下に基づき見解書を作成した。

- a. タイプ ☐ 配列表  
☐ 配列表に関連するテーブル
- b. フォーマット ☐ 巻面  
☐ コンピュータ読み取り可能な形式
- c. 提出時期 ☐ 出願時の国際出願に含まれる  
☐ この国際出願と共にコンピュータ読み取り可能な形式により提出された  
☐ 出願後に、調査のために、この国際調査機関に提出された

3. ☐ さらに、配列表又は配列表に関連するテーブルを提出した場合に、出願後に提出した配列若しくは追加して提出した配列が出願時に提出した配列と同一である旨、又は、出願時の開示を超える事項を含まない旨の陳述書の提出があった。

4. 補足意見：

第V欄 新規性、進歩性又は産業上の利用可能性についてのPCT規則43の2.1(a)(i)に定める見解、  
それを裏付ける文献及び説明

## 1. 見解

新規性 (N)	請求の範囲	7-10, 14, 16, 17	有 無
	請求の範囲	1-6, 11-13, 15, 18	
進歩性 (IS)	請求の範囲		有 無
	請求の範囲	1-18	
産業上の利用可能性 (IA)	請求の範囲	1-18	有 無
	請求の範囲		

## 2. 文献及び説明

文献1: JP 4-149237 A (綜研化学) 1992. 05. 22  
 文献2: JP 4-115407 A (綜研化学) 1992. 04. 16  
 文献3: JP 7-133466 A (綜研化学) 1995. 05. 23  
 文献4: JP 2002-167555 A (日立化成) 2002. 06. 11  
 文献5: JP 2002-167556 A (日立化成) 2002. 06. 11  
 文献6: JP 2002-164389 A (日立化成) 2002. 06. 07  
 文献7: WO 2001/059007 A1 (日立化成) 2001. 08. 16

請求の範囲1-18の各発明は、国際調査報告で引用された上記文献1-7の開示内容により、新規性及び／または進歩性を有しない。

上記文献1-3には、それぞれ、ポリマー粒子芯体にNi-Au複合膜等の金属導体膜を形成してなる導電性粒子の導体膜表面の少なくとも一部にさらにアクリル系等のポリマー粒子をドライブレンド法等の方法で接着被覆してなる導電性粒子を、熱硬化性樹脂等を含有する絶縁性バインダーに添加分散させてなる、電極間の接続接着に有用な異方導電性接着剤組成物、当該組成物を用いて電極間を接続接合してなる電気的接続構造及びその製造方法が開示されており、特に、文献2ないし3には、それぞれ、当該接続構造が耐湿熱サイクル性を有する点も開示されている。

従って、上記1-6, 11-13, 15ないし18の各請求の範囲の発明は、文献1-3に開示されている各発明との間で、微粒子間の質量比、粒径比ないし被覆割合等に係る微差が存するものの、当該技術的事項による発明の実施効果上の実質的な差異がなく、特別な技術的特徴を有するものではないから、実質的に同一と認められる。

また、上記7-10, 14, 16ないし17の各請求の範囲の発明と文献1-3に開示された各発明とを比較すると、上記7-10, 14, 16ないし17の各請求の範囲の発明では、接着剤組成物の組成（請求の範囲7-10）及び被着材の種類（請求の範囲14, 16ないし17）がそれぞれ規定されているのに対し、文献1-3には、当該各技術事項に係る具体的開示がない点でのみ一応相違しているが、上記文献4-7にもそれぞれ開示されているとおり、当該接着剤組成物の組成ならびに被着材の種類については、この国際出願の優先日前に当業界において少な

## 第Ⅶ欄 国際出願に対する意見

請求の範囲、明細書及び図面の明瞭性又は請求の範囲の明細書による十分な裏付についての意見を次に示す。

この国際出願の明細書には、導電粒子の表面の一部を絶縁性微粒子により被覆するための方法ならびに絶縁性微粒子により被覆された導電粒子の精製（未被覆絶縁性微粒子の除去）に係る具体的開示がない。

しかるに、技術的常識からみて、被覆方法如何によっては、絶縁性微粒子がその形状を変化させるものであり、また、被覆されていない絶縁性微粒子が存在する場合、被覆に使用されている絶縁性微粒子の定量測定に影響がある点が自明である。

従って、この国際出願の明細書の開示内容では、如何にして、各請求の範囲に開示された所望の割合（質量比、比重の比、表面被覆の割合）で意図的に絶縁性微粒子被覆を行うのか、技術的に不明であるとともに、請求の範囲に開示された上記各割合に係る技術的意義が不明である。

## 補充欄

いずれかの欄の大きさが足りない場合

## 第 V 欄の続き

くとも公知の技術のみであって、同一の技術分野に属する文献 1－3 に開示された各発明に文献 4－7 に開示された技術事項を組み合わせ、上記 7－10, 14, 16 ないし 17 の各請求の範囲の発明を構成する点に、格別な技術的困難性が存するものとは認められない。

従って、請求の範囲 1－18 の各発明は、上記各文献に開示された発明に基づき、当業者が容易に発明し得たものと認められる。